

Tajuk : State To Lead Crocodile Studies In Malaysia.

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PICTURE of an Estuarine Crocodile (*Crocodylus Porosus*).

KOTA SAMARAHAN: Forest Department Sarawak and the Department of Zoology, Faculty of Resource Science and Technology, UNIMAS are collaborating on an experimental study to better understand the ecology of saltwater or estuarine crocodile, *Crocodylus porosus* in Kuching Wetlands National Park (KWNP).

Known to be the largest living reptile, the species has also been reported to be the largest riparian predator in the world.

Estuarine crocodile is a generalist carnivore and has a tendency to take almost everything that comes to its territory as its prey, and these would include carrion, insects, crustaceans, fish, shore birds, otters, snakes, flying foxes, monkeys, cattle, buffaloes or even human being, depending on the size of the predator.

Some scientists, however, suggest that attacks on human are occasionally territorial in nature rather than predatory, and this might be true to some extent as crocodiles usually retreat when approached by human beings.

The camera trapping exercise of estuarine crocodile within KWNP is aimed to explore the possibility on use of infra-red sensor cameras in the field to study animal ecology and its behaviour associated with mangrove swamp and aquatic habitat.

Leading the study, Engkamat Lading and Dayang Nuriza Bte Abdillah, and their team of researchers and field staff from the Forest Department, who are collaborating with Dr. Mohd Azlan Jayasilan Abdul Gulam Azad and his undergraduate student, Siti Zulaiha Binti Jamal from UNIMAS, have proven that the devices could actually work quite well in detecting the crocodilian species, which is cold-blooded animal, in its natural habitat.

"In the past, we (UNIMAS, Forest Department, Sarawak and Sarawak Forestry Corporation Sdn Bhd) have used similar method to understand the distribution of secretive carnivores in Totally Protected Areas (TPAs) and have discovered many interesting findings, but now is the first time we are testing this methods on the cold blooded species such as the estuarine crocodile in Sarawak, and quite surprisingly it appears that the device seems to work effectively on the species," commented Dr. Azlan.

As a trial, a pair of camera traps

was set up at certain sites around Pulau Liak in KWNP in June '22, 2013 resulting in the capture of 108 videos and 1926 pictures or photographs.

The photographs were comprised of 31 pictures of estuarine crocodiles (coming up to the river bank, or still partly submerged in the shallow water near to the bank), a herd of otters and several pictures of crab-eating monkeys, *Macaca Fascicularis*.

The pictures of the estuarine crocodiles were captured during both high and low tides while that of the mammals (otters and monkeys) were captured during low tide only at day time.

Most of the crocodile photographs were observed at night between 8.00pm and 4.45am and only two of its pictures were recorded during the day, between 6.30 am and 7.30am.

Based on the preliminary study at least two individuals were observed in a single site at different time.

This somewhat sedentary behaviour of the individuals might be an indication that the animals are guiding their breeding territory, and probably its nest too, in the vicinity. Individual identification could be made possible based on marking sign on the head and estimation of their body size and length.

With this success the researchers are now trying to find out and to better understand the activity pattern of the crocodilian species in KWNP, and this exercise would be extended to other crocodile-infested rivers throughout Sarawak in the near future, as this will enable us to record, document and to scientifically establish times when estuarine crocodile are most active during a 24-hour period of the day.

This piece of information is very important in the management of the man-eaters in Sarawak. Individual recognition of estuarine crocodiles from pictures or images capture by camera traps could also help in the population survey and monitoring of the species in future.

Effective crocodile management and conservation programme in Sarawak should incorporate such information as, by better understanding of its activity period would help in reducing potential attacks on human, thus reducing Human-Crocodile Conflict (HCC) in Sarawak.